



Centers for Disease Control and Prevention

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Carbohydrates



Not sure what to think about carbohydrates these days? You've come to the right section. Here are the facts to separate the hype from the truth about carbohydrates.

Check out the following topics:

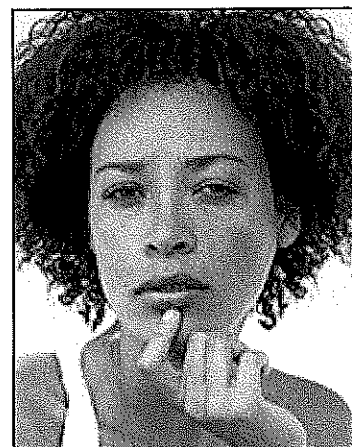
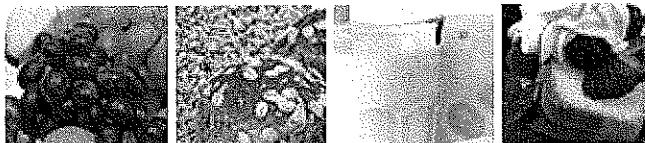
- [What are carbohydrates? \(#What are carbohydrates\)](#)
- [What are the types of carbohydrates? \(#types of carbohydrates\)](#)
 - [Complex carbohydrates \(#complex carbohydrates\)](#)
 - [Dietary fiber \(#dietary fiber\)](#)
 - [Simple carbohydrates \(sugars\) \(#Simple Carbohydrates\)](#)
- [How much carbohydrate do I need? \(#How much carbohydrate do I need\)](#)

Your body uses carbohydrates (carbs) to make glucose which is the fuel that gives you energy and helps keep everything going.

Your body can use glucose immediately or store it in your liver and muscles for when it is needed.

You can find carbohydrates in the following:

- Fruits
- Vegetables
- Breads, cereals, and other grains
- Milk and milk products
- Foods containing added sugars (e.g., cakes, cookies, and sugar-sweetened beverages).



Healthier foods higher in carbohydrates include ones that provide dietary fiber and whole grains as well as those without added sugars.

What about foods higher in carbohydrates such as sodas and candies that also contain added sugars? Those are the ones that add extra calories but not many nutrients to your diet.

Quick Q&A

I've heard there are "good" carbs and "bad" carbs? Can you provide me more information?

Some diet books use "bad" carbs to talk about foods with refined carbohydrates (i.e., meaning they're made from white flour and added sugars).

Examples include white bread, cakes, and cookies.

"Good" carbs is used to describe foods that have more fiber and complex carbohydrates. Complex carbohydrates are carbohydrates that take longer to break down into glucose.

These terms aren't used in the *Dietary Guidelines for Americans 2005*. Instead, the guidelines recommend choosing fiber-rich carbohydrate choices from the vegetable, fruit, and grain groups and avoid added sugars.

It is also recommended that at least half of your daily grain choices are whole grains.

(<http://www.mypyramid.gov>) To learn more about a meal plan that includes fiber-rich carbohydrates, visit [MyPyramid.gov](http://www.mypyramid.gov) (<http://www.mypyramid.gov>)



There are two main types of carbohydrates:

- Complex carbohydrates
- Simple carbohydrates

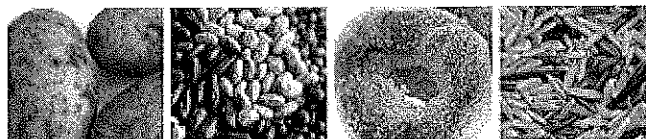
Complex Carbohydrates

Starch and dietary fiber are the two types of complex carbohydrates.

Starch must be broken down through digestion before your body can use it as a glucose source.

Quite a few foods contain starch and dietary fiber such as breads, cereals, and vegetables:

- Starch is in certain vegetables (i.e., potatoes, dry beans, peas, and corn).
- Starch is also found in breads, cereals, and grains.
- Dietary fiber is in vegetables, fruits, and whole grain foods.



Dietary Fiber

You may have seen dietary fiber on the label listed as soluble fiber or insoluble fiber.

Soluble fiber is found in the following:

- Oatmeal
- Oat bran
- Nuts and seeds
- Most fruits (e.g., strawberries, blueberries, pears, and apples)
- Dry beans and peas

Insoluble fiber found in the following:

- Whole wheat bread
- Barley
- Brown rice
- Couscous
- Bulgur or whole grain cereals
- Wheat bran
- Seeds
- Most vegetables
- Fruits



Which type is best? Both! Each has important health benefits so eat a variety of these foods to get enough of both. You're also more likely to get other nutrients that you might miss if you just chose 1 or 2 high-fiber foods.

How much dietary fiber do I need each day?

It's recommended that you get 14 grams of dietary fiber for every 1,000 calories that you consume each day. If you need 2,000 calories each day, you should try to include 28 grams of dietary fiber.

To find out how many calories you need each day, visit [MyPyramid.gov](http://www.mypyramid.gov) (<http://www.mypyramid.gov>) and enter your age, sex, height, weight, and activity level in the My Pyramid Plan tool. Then refer to the Easy Fiber Estimator to find how many grams you need.

Easy Dietary Fiber Estimator	
Daily calorie needs	Daily dietary fiber needs
1000	14 grams
1200	17 grams
1400	20 grams

1600	22 grams
1800	25 grams
2000	28 grams
2200	31 grams
2400	34 grams
2600	36 grams
2800	39 grams
3000	42 grams

At first, you may find it challenging to eat all of your daily fiber grams. Just take it slowly and try to choose higher-fiber foods more often. Over time, you'll gradually be eating more fiber!

Try these tips to jumpstart your intake of dietary fiber:

- Choose whole fruits more often than fruit juice. Fresh, frozen, or canned—it doesn't matter—they all count!
- Try to eat two vegetables with your evening meal.
- Keep a bowl of veggies already washed and prepared your refrigerator—try carrots, cucumbers, or celery for a quick snack.
- Make a meal around dried beans or peas (also called legumes) instead of meat. Check www.fruitsandveggiesmatter.gov (<http://apps.nccdc.cdc.gov/dnparecipe/recipesearch.aspx>) for some new ideas.
- Choose whole grain foods more often. Take a look at the "whole grains buzz words list" below to help you decide. A good guide is to make at least ½ of your grain choices be whole grains.
- Start your day with a whole grain breakfast cereal low in added sugar. Top your cereal with fruit for even more fiber. While bananas may come to your mind first, you can add even more variety by also trying sliced peaches or berries. You can often find these fruits year-round in the frozen foods section of your grocery store.

Whole Grain "Buzz Words"

The Dietary Guidelines for Americans recommend that you try to make at least half of your daily grain choices as whole grains.

You can find out if the food you are eating is made of whole grains by looking at the ingredients list of the food label. The whole grain should be the first ingredient listed. The following are some examples of how whole grains could be listed:

- brown rice
- buckwheat
- bulgur (cracked wheat)
- millet
- wild rice
- popcorn*
- quinoa
- triticale
- whole-grain barley
- whole-grain corn
- whole oats/oatmeal
- whole rye
- whole wheat

*Popcorn is a whole grain that can have added fat and salt. Try air-popping your popcorn to avoid these extras. If you're buying microwave popcorn, look for a lower-fat variety. You may also want to try the snack size bag to help with portion control.

Grains Galore!

Here are some explanations of less-familiar grains:³

Bulgur. A staple of Middle Eastern dishes. Bulgur wheat consists of kernels that have been steamed, dried, and crushed. It has a tender and chewy texture.

Whole Grains

Whole grains are a good source of fiber and nutrients. Whole grains refer to grains that have all of the parts of the grain seed (sometimes called the kernel). These parts of the kernel are called the bran, the germ, and the endosperm.

If the whole grain has been cracked, crushed, or flaked (as in cracked whole grain bread or flake cereal), then the whole grain must still have about the same proportions of bran, germ, and endosperm to be called a whole grain.¹

When whole grains are processed, some of the dietary fiber and other important nutrients are removed. A processed grain is called a "refined" grain.

Some refined grain products have key nutrients, such as folic acid and iron, which were removed during the initial processing and added back. These are called enriched grains. White rice and white bread are enriched grain products.

Some enriched grain foods have extra nutrients added. These are called fortified grains.²

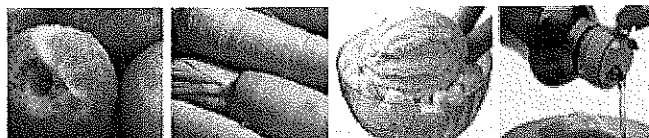
Millet. A staple grain in parts of Africa and Asia. Millet comes in several varieties and has a bland flavor that is a background to other seasonings.

Quinoa. A grain that has been traditionally used in South American cuisine. Its texture has been compared to that of couscous.

Triticale. A grain that is a hybrid of wheat and rye. It comes in several varieties including whole berry, flakes, and flour.

Simple Carbohydrates

Simple carbohydrates include sugars found naturally in foods such as fruits, vegetables, milk, and milk products. Simple carbohydrates also include sugars added during food processing and refining.⁴ What's the difference? In general, foods with added sugars have fewer nutrients than foods with naturally-occurring sugars.



How can I avoid added sugars?

One way to avoid these sugars is to read the ingredient lists on food labels.

Look for these ingredients as added sugars:⁵

• Brown sugar	• Invert sugar
• Corn sweetener	• Lactose
• Corn syrup	• Maltose
• Dextrose	• Malt Syrup
• Fructose	• Molasses
• Fruit juice concentrates	• Raw sugar
• Glucose	• Sucrose
• High-fructose corn syrup	• Sugar
• Honey	• Syrup

If you see any of these in the ingredient list, you know the food has added sugars. The closer to the top of the list, the more of that sugar is in the food.

You can learn more about sugars on the food label by visiting [How to Understand and Use the Nutrition Facts Label](http://www.cfsan.fda.gov/~dms/foodlab.html) (<http://www.cfsan.fda.gov/~dms/foodlab.html>).

Other tips for avoiding added sugars include—

- Choose water instead of sugar-sweetened sodas.
- Choose 4 fluid ounces (1/2 cup) of 100% fruit juice rather than a fruit drink.
- Have a piece of fruit for dessert and skip desserts with added sugar.
- Choose breakfast cereals that contain no or less added sugars.

If you want to learn more about avoiding added sugar in what you drink, check out [Re-think your Drink](http://www.cdc.gov/nccdphp/dnpa/healthyweight/healthy_eating/drinks.htm) (http://www.cdc.gov/nccdphp/dnpa/healthyweight/healthy_eating/drinks.htm).

You probably already know sugars and starches can play a role in causing cavities. But it's worth mentioning again, particularly as far as kids are concerned. Be sure to also brush, floss, and drink fluoridated water to help prevent cavities.

Your best approach is to follow a meal plan that gives you 45% to 65% of the calories as carbohydrates. How do you do this? Check out these two meal plans: MyPyramid.gov or DASH eating plan. Both of these can give you the calories you need and the right amounts of carbohydrate.

- [MyPyramid.gov](http://mypyramid.gov/) (<http://mypyramid.gov/>) lets you enter your age, sex, height, weight, and activity level to get a meal plan specific to your calorie needs.
- [DASH \(Dietary Approaches to Stop Hypertension\) Eating Plan](http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/new_dash.pdf) (http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/new_dash.pdf) (PDF-980k) provides a healthy eating plan with menu examples and recipes to get you started.
- [HHS Health Facts: Choose Carbohydrates Wisely](http://www.csrees.usda.gov/nea/food/pdfs/hhs_facts_carbohydrates.pdf) (http://www.csrees.usda.gov/nea/food/pdfs/hhs_facts_carbohydrates.pdf) (PDF-96k) explains why it's important to choose carbohydrates wisely.

¹Dietary Guidelines for Americans, 2010 (pg 14).


²DHHS, A Healthier You, (pg 43).

³Barron's Food Lover's Companion. Copyright © 2001 by Barron's Educational Series, Inc.

⁴U.S. National Library of Medicine & NIH. MedlinePlus Medical Encyclopedia: Carbohydrates.

⁵DHHS, A Healthier You, (pg 55).

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